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## Particle Interations With Obliquely Propagating Magnetosonic Waves: Energization and/or 'happing

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Three cases of nonlinear obliquely propagating MS waves are considered using a test particle approach: i) monochromatic waves propagating unidirectionally, ii) monochromatic waves propagating both upstream and downstream, and iii) a broad band spectrum, propagating both upstream and downstream. Wc find significant particle trapping and acceleration for the monochromatic highly oblique waves. For the "turbulent" case, it is found that for very oblique propagation, the particles are again highly accelerated but the trapping is very much suppressed. Wc will compare the relative particle heating and acceleration for the three cases and will discuss the physical mechanisms of trapping and acceleration.

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